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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/087,730  
Filing Date: March 05, 2002  
Appellant(s): DAVIS ET AL.

**MAILED**  
**DEC 13 2007**  
**GROUP 1600**

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Mr. Andrew Bateman  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 6 September 2007 appealing from the Office action mailed 23 March 2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5,229,297	SCHNIPELSKY ET AL	7-1993
5,254,479	CHEMELLI	10-1993
5,821,399	ZELIN	10-1998
6,438,498	OPALSKY ET AL	8-2002
4,781,683	WOZNIAK ET AL	11-1988
6,296,020	MCNEELY ET AL	10-2001

5,503,985	CATHEY ET AL	4-1996
4,919,141	ZIER ET AL	4-1990
2002/0055167	POURAHMADI ET AL	5-2002
6,221,238	GRUNDIG ET AL	4-2001
6,074,827	NELSON ET AL	6-2000

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 2, 5, 14, 17, 18, 19, 30, 34 and 56 are rejected under 35 U.S.C. 102(b) as being anticipated by Schnipelsky et al. (US 5,229,297).

Schnipelsky et al. teach a cartridge (10, Fig. 1) comprising: a sample holding chamber for receiving a sample and retaining the sample (26, Fig. 2; col. 13, lines 30-40); a first conduit connected to the sample holding chamber (channels 44, 54 and 40 comprise a first conduit, Fig. 1; col. 10, lines 47-61); at least one analyte sensor, wherein the sensor comprises an analyte responsive surface and the surface is within the first conduit (detection site, 40, Fig. 1 is within first conduit; col. 7, lines 38-43; col. 12, lines 36-48); a second conduit, which is connected to the first conduit (48, second conduit, connected to first conduit, 44,54 and 40, Fig. 1; col. 10, lines 47-61); a valve connected to an opening in the first conduit, wherein the valve is closed by contact with the sample (check valve present in first conduit, col. 10, lines 43-46; check valve closes upon contact with sample

moving back through the conduit, col. 14, lines 42-49); and a pump capable of displacing the sample from the holding chamber into the first conduit, the pump further capable of displacing the fluid from the second conduit into the first conduit (cuvette is flexible and pumps fluid into channels when depressed, col. 10, line 62-col. 11, line 10). Although Schnipelsky et al. do not specifically teach a second conduit capable of fluid retention, the conduit does not appear to require any further properties to retain fluid, and therefore the conduit of Schnipelsky et al. would be capable of retaining fluid.

Claim 5 fails to recite any structural limitations required in order for the cartridge to be single use. Therefore, since the cartridge of Schnipelsky et al. teaches the structural limitations recited in claim 2, the cartridge is capable of being used only once prior to disposal.

Regarding claim 14, Schnipelsky et al. teach at least one constriction to control fluid flow within the first and second conduits (pinch point, col. 12, 19-35).

With respect to claim 17, Schnipelsky et al. teach a third conduit connecting the second conduit to an overflow chamber (third conduit 42, connects both first and second conduit to an overflow chamber 43, Fig. 2; col. 10, lines 39-45), but does not exclude connection of the second conduit to the third conduit.

Regarding claim 18, Schnipelsky et al. teach a pump being a flexible diaphragm (26, 30, Fig. 1; flexible compartments, col. 9, line 63-col. 10, line 12).

With respect to claim 19, Schnipelsky et al. teach the analyte-responsive surface comprising an antibody (biotin, col. 6, lines 45-49; col. 7, lines 39-43).

Regarding claims 30 and 34, Schnipelsky et al. teach at least one analyte sensor formed on a substantially planar surface (40, Fig. 2) and mobile microparticles capable of interacting with the analyte and further comprising means for localizing the particles to the at least one sensor (col. 6, lines 49-60).

Regarding claim 56, Schnipelsky et al. teach the sample holding chamber further comprising a closure means (temporary seal, 46, Fig. 1; col. 10, lines 50-52).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 3, 6-8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schnipelsky et al. (US 5,229,297) in view of Chemelli (US 5,254,479).

Schnipelsky et al. teach a cartridge comprising: a sample holding chamber, a first conduit, at least one analyte sensor, a second conduit, a valve and a pump, as discussed above. However, Schnipelsky et al. fail to teach means for inserting at least one air segment into the first or second conduit.

Chemelli teaches means for inserting at least one air segment into a first or second conduit (col. 4, lines 39-44; col. 5, lines 11-23, can be first or second conduit because roller continues to next location which contains an air pocket, the air pockets of each location are released, and therefore air pockets are inserted into both the first and second conduits (col. 5, lines 11-23), in order to control incubation time.

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include in the cartridge of Schnipelsky et al., means for inserting at least one air segment into the first or second conduit as taught by Chemelli, in order to prevent interference of air pockets or bubbles with the detection chamber.

With respect to claim 12, Chemelli teaches a pneumatic means for displacing air from the air sac into the second conduit (col. 5, lines 11-23).

3. Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schnipelsky et al. (US 5,229,297) in view of Chemelli (US 5,254,479), as applied to claim 3, and further in view of Zelin (US 5,821,399).

Schnipelsky et al. in view of Chemelli, as applied to claim 2, teach a cartridge for sensing at least one analyte with a means for inserting at least one air segment into the first or second conduit, but fail to teach at least one sensor capable of detecting an air-liquid interface.

Zelin teaches a cartridge comprising air segments inserted into conduits (col. 3, lines 34-42) and a conductivity sensor capable of detecting an air-liquid interface (col. 4, lines 40-67), in order to displace calibrating fluid and separate calibrating fluid from a blood test sample.

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include in the cartridge of Schnipelsky et al. in view of Chemelli, a conductivity sensor as taught by Zelin, in order to increase the consistency and reliability of the output measurements by ensuring that all air is out of the detection chamber while liquid reactions are taking place.

4. Claims 10 and 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Schnipelsky et al. (US 5,229,297) in view of Opalsky et al. (US 6,438,498).

Schnipelsky et al., as applied to claim 2, teach a cartridge for sensing at least one analyte, but fail to teach a means for metering.

Opalsky et al. teach a means for metering involving a capillary stop in a first conduit in order to adequately fill a sensor channel (col. 10, lines 38-col. 11, line 10).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include in the cartridge of Schnipelsky et al., a means for metering as taught by Opalsky et al., in order to regulate the amount of volume entering the detection chamber.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schnipelsky et al. (US 5,229,297) in view of Wozniak et al. (US 4,781,683).

Schnipelsky et al. teach a cartridge comprising a valve connected to an opening in the first conduit wherein the valve is closed by contact with the sample, but fail to teach the valve being a gelling polymer.

Wozniak et al. teach a closable valve of a gelling polymer closed by contact with the fluid sample (col. 2, lines 52-68), in order to prevent reuse of a syringe.

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute for the one-way check valve of Schnipelsky et al., a gelling polymer closed by contact with the fluid sample as taught by Wozniak et al., in order to provide a low cost one-way valve that does not require mechanical components.

6. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schnipelsky et al. (US 5,229,297) in view of McNeely et al. (US 6,296,020).

Schnipelsky et al. teach a cartridge comprising a second conduit, but fail to teach a valve in the second conduit.

McNeely et al. teach a valve in a second conduit that is responsive to hydrostatic pressure, wherein the valve is a constriction having a fluid-contacting surface comprising a

hydrophobic surface (col. 4, lines 14-20), in order to move fluid through a circuit in a specific manner (col. 1, lines 49-52).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include in the second conduit of Schnipelsky et al., a valve that is responsive to hydrostatic pressure as taught by McNeely et al., in order to prevent the reagent in the second conduit from reacting with fluid in the first conduit with a valve that does not significantly affect established flow in the channel once it becomes established.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schnipelsky et al. (US 5,229,297) in view of Cathey et al. (US 5,503,985).

Schnipelsky et al. teach a compartment comprising dried reagents capable of dissolving in the sample (col. 10, lines 13-16), but fail to teach a portion of at least one conduit comprising at least one dry reagent.

Cathey et al. teach a device with compartment (incubation area) comprising a dried reagent, wherein the dried reagent may instead be in a channel (col. 7, lines 12-19), in order to.

Therefore one of ordinary skill in the art at the time the invention was made would have been motivated to include the dried reagent in a first conduit of Schnipelsky et al. instead of the sample compartment. One having ordinary skill would have been motivated to make such a change as mere alternative and functionally equivalent reagent distribution technique and since only the expected time at which the reagent was distributed would have been obtained. The use of alternative and functionally equivalent techniques would have been desirable to those of ordinary skill in the art based on preventing inhomogeneous mixing of reagents with a sample.

8. Claims 21-26, 28, 29, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schnipelsky et al. (US 5,229,297) in view of Cathey et al. (US 5,503,985) and further in view of Zier et al. (US 4,919,141) and Pourahmadi et al. (US 2002/0055167).

Schnipelsky et al. in view of Cathey et al. teach a cartridge comprising an analyte responsive surface and a conduit comprising at least one dry reagent, but fail to teach the surface comprising an antibody-enzyme conjugate.

Zier et al. teach an antibody enzyme conjugate wherein an enzyme is glucose oxidase (col. 3, lines 35-44) and a substrate of D-glucose (col. 7, line 63-col. 8, line 5), in order to detect diabetes. However, Zier et al. fail to teach motivation to use a D-glucose substrate and glucose oxidase enzyme in the cartridge of Schnipelsky et al.

Pourahmadi et al. teach that cartridges used for DNA detection can also be used for protein capture and detection in a sample (par. 43 and 46), wherein a dry reagent is either one for DNA purification or an antibody-enzyme conjugate (par. 87), in order to provide efficient detection of large sample volumes.

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute for the immobilized DNA in the analyte responsive sensor of Schnipelsky et al. in view of Cathey et al., an enzyme substrate of glucose and an enzyme of glucose oxidase in a sample as taught by Zier et al., in order to provide a compact and efficient detection of large sample volumes as taught by Pourahmadi et al.

Regarding claims 25, 26, 28 and 29, Zier et al. teach the blood fluid comprising a substrate for an antibody-enzyme conjugate (col. 6, lines 4-8) wherein the substrate is cleaved to produce an electroactive product (col. 7, line 63-col. 8, line 13). Zier et al. also

teach the analyte sensor being an amperometric sensor (col. 4, lines 54-62), with a plurality of mechanical and electrical connections (col. 7, lines 45-62).

Regarding claim 32, Zier et al. teach an enzyme and a substrate capable of regenerating a product consumed by contact with the at least one analyte sensor, whereby a signal from the sensor is increased (col. 7, line 63-col. 8, line 13).

9. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schnipelsky et al. (US 5,229,297) in view of Cathey et al. (US 5,503,985) and further in view of Zier et al. (US 4,919,141) and Pourahmadi et al. (US 2002/0055167), as applied to claim 26, and further in view of Grundig et al. (US 6,221,238).

Schnipelsky et al. in view of Cathey et al. and further in view of Zier et al. and Pourahmadi et al., as applied to claim 26, teach a cartridge wherein a substrate is cleaved to produce an electroactive product, but fail to teach a substrate of ferrocene.

Grundig et al. teach a ferrocene substrate in order to provide a redox-active label of an antigen (col. 1, lines 58-62).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include in the modified cartridge of Schnipelsky et al. a ferrocene substrate as taught by Grundig et al., in order to modify increase the sensitivity of amperometric indication of an electrode comprising glucose oxidase.

10. Claims 31 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schnipelsky et al. (US 5,229,297) in view of Pourahmadi et al. (US 2002/0055167).

Schnipelsky et al. teach a cartridge, but fail to teach a surface coating that decreases non-specific binding.

Pourahmadi et al. teach a cartridge comprising a surface coating that decreases non-specific binding of a substance (par. 101), in order to prevent adhesion of nucleic acids to a cartridge surface.

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include in the cartridge of Schnipelsky et al., a surface coating that decreases non-specific binding as taught by Pourahmadi et al., in order to minimize non-specific binding and more accurately detect analyte present in the sample in low concentrations.

With respect to claim 36, Pourahmadi et al. teach a filter element interposed between the sample holding chamber and the at least one analyte sensor (par. 51) in order to capture desired analyte.

Therefore, it would have been obvious to include the filter element in the cartridge of Schnipelsky et al. between the sample holding chamber and at least one analyte sensor, and adjacent to the at least one sensor, a filter element as taught by Pourahmadi et al., in order to efficiently capture analyte. The microparticles of Pourahmadi et al. would therefore become concentrated adjacent the at least one sensor.

11. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schnipelsky et al. (US 5,229,297), as applied to claim 34, in view of Nelson et al. (US 6,074,827).

Schnipelsky et al., as applied to claim 34, teach a cartridge comprising a microparticle to localize a DNA strand to the sensor (col. 6, lines 29-43), but fail to teach magnetic microparticles and a magnetic field for localizing the microparticles to the sensor.

Nelson et al. teach a magnetic microparticle and a magnetic field for localizing a microparticle (col. 6, lines 30-45), in order to retain analyte in an enrichment channel.

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute for the particles in Schnipelsky et al., magnetic particles with a magnetic field as taught by Nelson et al., in order to provide a rapid and reliable method of localization of analyte.

**(10) Response to Argument**

A. Summary of arguments

At pages 10-17, applicant's summary of arguments is acknowledged and will be discussed in further detail below.

B. Objection to claims 46 and 47

At page 18, applicant's cancellation of claims 46 and 47 is acknowledged and the cancellation of the claims deems the status identifiers clear.

C. Rejection of Claims 2, 5, 14, 17-19, 30, 34 and 56 under 35 USC 102(b) as anticipated by Schnipelsky

At pages 19-25, applicant argues that Schnipelsky does not anticipate claim the claims because the reference fails to teach a valve closed by contact with the sample.

At pages 19-22 and 26, applicant argues that Schnipelsky teaches a one-way check valve that can be included in a passageway to prevent waste liquid from backwashing into a compartment and therefore remains open and allows fluid to travel downstream but prevents a backwashing of liquid from traveling upstream, and therefore only when the fluid backwashes does the one-way check valve close. Applicant's argument is not persuasive because the one-way check valve of Schnipelsky closes upon contact with the sample in an upstream direction. When the sample flows upstream, the valve is closed, which is closure upon contact with the sample (col. 9, lines 42-46). The claim does not exclude contact in only one direction for closure and does not require the valve to permanently close the conduit.

At page 22, applicant further argues that the type of valve used in Schnipelsky is not one of the valves used in the present invention and a check valve taught by Schnipelsky.

cannot be substituted for the valve in the instant invention. Applicant argues that for this reason the check valves taught by Schnipelsky is different than the valve recited in independent claim 2. Applicant's argument is not persuasive because the claims do not recite or exclude the structures of certain types of valves and the valve of Schnipelsky meets the recited limitations for the valve in the claims as discussed in the rejection above. Therefore the valve of Schnipelsky anticipates the recited valve in the claims. At page 23, applicant argues that the language in claim 2 does not recite that the "check valve closes upon contact with sample moving back through the conduit" and therefore is different than the valve of Schnipelsky. However, applicant's argument is not persuasive because claim 2 does not exclude such a limitation and only requires that the valve close upon contact with the sample. Since the valve of Schnipelsky closes upon contact with sample moving back through the conduit (col. 9, lines 42-46), the valve of Schnipelsky meets the limitations required by claim 2.

At pages 23-24, applicant also argues that the conduit comprised of passageways 44 and 54 of Schnipelsky are separate and distinct passageways from each other and are separate and distinct from the detection compartment 40 and they are positioned so each passageway will empty into the compartment separately. Applicant's argument is not persuasive because although the passageways of Schnipelsky et al. are fed into the same passageway and are fluidically connected. The conduit is the passageway, 44, which feeds into the lower portion of passageway, 54, and into detection compartment, 44 (Fig. 1). There are no valves in this passageway and is therefore the same passageway and reads on the conduit recited in Claim 2.

At page 24, applicant argues that Schnipelsky does not teach an invention identical to the invention recited in claim 2. However, applicant's argument is not persuasive

because Schnipelsky anticipates claim 2 by teaching the required elements as described above.

At pages 24-25, applicant argues that the second conduit of Schnipelsky does not retain fluid in the same manner as required by claim 2. In response to applicant's argument, while the prior art is not specifically used to retain fluid (does not disclose), such a limitation is merely an intended use which the prior art would inherently be capable of doing. The only distinction between applicant's claims and the prior art is recited in the functional language. It is incumbent upon applicant to show that the application disclosed by the prior art is not actually capable of performing such functions. See *In re Lutke*, 169 USPQ 563 @ 566 (CCPA 1971) and *In re Swinehartetal*, 169 USPQ 226 @ 229 (CCPA 1971). Since the second conduit of the instant claims does not require any further structural limitations, and the second conduit taught by Schnipelsky has the recited structural limitations of a conduit, the second conduit disclosed is capable of retaining fluid.

D. Rejection of claims 3, 6-8 and 12 under 35 USC 103(a) as being unpatentable over Schnipelsky in view of Chemelli

At pages 27-31, applicant argues that both Schnipelsky and Chemelli fail to teach a valve closed by contact with the sample. Applicant's arguments are not persuasive because Chemelli is not relied upon for teaching a valve closed by a sample. Schnipelsky is relied upon for this limitation and teaches a valve closed by a sample for the reasons stated above.

E. Rejection of claims 4 and 9 under 35 USC 103(a) as being unpatentable over Schnipelsky in view of Chemelli and further in view of Zelin

At pages 32-36, applicant argues that Schnipelsky, Chemelli and Zelin fail to teach a valve closed by contact with the sample. Applicant's arguments are not persuasive because Chemelli and Zelin are not relied upon for teaching a valve closed by a sample. Schnipelsky is relied upon for this limitation and teaches a valve closed by a sample for the reasons stated above.

F. Rejection of claims 10 and 11 under 35 USC 103(a) as being unpatentable over Schnipelsky in view of Opalsky

At pages 37-41, applicant argues that Schnipelsky and Opalsky fail to teach a valve closed by contact with the sample. Applicant's arguments are not persuasive because Opalsky is not relied upon for teaching a valve closed by a sample. Schnipelsky is relied upon for this limitation and teaches a valve closed by a sample for the reasons stated above.

G. Rejection of claim 13 under 35 USC 103(a) as being unpatentable over Schnipelsky in view of Wozniak

At pages 42-48, applicant argues that Schnipelsky and Wozniak fail to teach a valve closed by contact with the sample.

At pages 42-45, applicant argues that the valve of Wozniak closes after a time lapse and because the valve does not close immediately by contact with the sample and therefore does not read on the claims. Applicant's arguments are not persuasive because Schnipelsky is a valve closed by a sample for the reasons stated above. Regarding the Wozniak reference, it is noted that the features upon which applicant relies (i.e., closure of the valve immediately after contact with a sample) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are

not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, although there is a delay in closure, the polymer gel of Wozniak only closes if a sample has contacted the gel (col. 2, lines 52-68) and therefore meets the recited requirements of the claim.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, at pages 45-46, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Since both references are drawn to plugs used to close a passageway, one having ordinary skill in the art would recognize the art as equivalent.

At pages 46-47, applicant argues that the gelling polymer taught by Wozniak is not a one way valve. However, in response to applicant's arguments, the gelling polymer of Wozniak closes after contact with a sample and therefore when placed in the conduit of Schnipelsky, after the fluid passes through the valve, the polymer would gel and the fluid would no longer be able to flow backwards through the conduit. Therefore the gelling polymer of Wozniak provides a one way valve into the conduit of Schnipelsky. Furthermore, applicant's argues against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that Wozniak and Schnipelsky are nonanalogous art, at pages 47-48, it has been held that a prior art reference must either be in the field of

applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both references are drawn to plugs used to close a passageway, and one having ordinary skill in the art would recognize the art as equivalent.

**H. Rejection of claims 15 and 16 under 35 USC 103(a) as unpatentable over Schnipelsky in view of McNeely**

At pages 49-54, applicant argues that Schnipelsky and McNeely fail to teach a valve closed by contact with the sample. Applicant's arguments are not persuasive because McNeely is not relied upon for teaching a valve closed by a sample. Schnipelsky is relied upon for this limitation and teaches a valve closed by a sample for the reasons stated above.

**I. Rejection of claim 20 under 35 USC 103(a) as being unpatentable over Schnipelsky in view of Cathey**

At pages 55-59, applicant argues that Schnipelsky and Cathey fail to teach a valve closed by contact with the sample. Applicant's arguments are not persuasive because Cathey is not relied upon for teaching a valve closed by a sample. Schnipelsky is relied upon for this limitation and teaches a valve closed by a sample for the reasons stated above.

**J. Rejection of claims 21-26, 28, 29, 32 and 33 under 35 USC 103(a) as being unpatentable over Schnipelsky in view of Cathey and further in view of Zier and Pourahmadi**

At pages 60-66, applicant argues that Schnipelsky, Cathey, Zier and Pourahmadi fail to teach a valve closed by contact with the sample. Applicant's arguments are not persuasive because Cathey, Zier and Pourahmadi are not relied upon for teaching a valve closed by a sample. Schnipelsky is relied upon for this limitation and teaches a valve closed by a sample for the reasons stated above.

K. Rejection of claim 27 under 35 USC 103(a) as being unpatentable over Schnipelsky in view of Cathey further in view of Zier, Pourahmadi and Grundig

At pages 67-72, applicant argues that Schnipelsky, Cathey, Zier, Pourahmadi and Grundig fail to teach a valve closed by contact with the sample. Applicant's arguments are not persuasive because Cathey, Zier, Pourahmadi and Grundig are not relied upon for teaching a valve closed by a sample. Schnipelsky is relied upon for this limitation and teaches a valve closed by a sample for the reasons stated above.

L. Rejection of claims 31 and 36 under 35 USC 103(a) as being unpatentable over Schnipelsky in view of Pourahmadi

At pages 73-75, applicant argues that Schnipelsky and Pourahmadi fail to teach a valve closed by contact with the sample. Applicant's arguments are not persuasive because Pourahmadi is not relied upon for teaching a valve closed by a sample. Schnipelsky is relied upon for this limitation and teaches a valve closed by a sample for the reasons stated above.

M. Rejection of claim 35 under 35 USC 103(a) as being unpatentable over Schnipelsky in view of Nelson

At pages 76-79, applicant argues that Schnipelsky and Opalsky fail to teach a valve closed by contact with the sample. Applicant's arguments are not persuasive because Nelson is not relied upon for teaching a valve closed by a sample. Schnipelsky is relied upon for this limitation and teaches a valve closed by a sample for the reasons stated above.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



Melanie Yu  
Patent Examiner  
Art Unit 1641

Conferees:



Long Le  
Art Unit 1641

LONG V. LE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1600

Larry Helms  
Art Unit 1643



LARRY R. HELMS, PH.D.  
SUPERVISORY PATENT EXAMINER